

CPC**COOPERATIVE PATENT CLASSIFICATION****G05G**

CONTROL DEVICES OR SYSTEMS INsofar AS CHARACTERISED BY MECHANICAL FEATURES ONLY ("Bowden" or like mechanisms [F16C 1/10](#); gearings or mechanisms not peculiar to this purpose [F16H](#) ; speed changing or reversing mechanisms for gearings conveying rotary motion [F16H 59/00](#) to [F16H 63/00](#))

NOTE

This subclass covers :

- members of general applicability for mechanical control;
- mechanical systems for moving members to one or more definite settings.

Systems peculiar to the control of particular machines or apparatus provided for in a single other class are classified in the relevant class for such machines or apparatus, for example:

[A61G 13/02](#) Controls for adjusting operating tables
[A61G 15/02](#) Controls for adjusting operating chairs
[B25J](#) Manipulators, e.g. controls therefor
[B60K 26/00](#) Arrangement or mounting of propulsion-unit control devices in vehicles
[B60T 7/00](#) Vehicle brake-action initiating means
[B62D 33/073](#) Adaptations of control devices for movable vehicle cabs
[B62K 21/00](#) Cycle-steering devices
[B62K 23/00](#) Rider-operated controls specially adapted for cycles
[B62L 3/00](#) Brake-actuating mechanisms specially adapted for cycles
[B63H 25/02](#) Marine steering initiating means
[B66B 1/00](#) Controls for elevators
[B66C 13/18](#) Control systems or devices for cranes
[B66C 13/56](#) Arrangements of handles or pedals for crane operation
[E02F 9/20](#) Control devices for dredging or soil shifting machines
[F16C 3/28](#) Adjustable cranks or eccentrics
[F16D 43/00](#) Automatic clutches
{ [F16H 59/00](#) to [F16H 63/00](#) Speed changing or reversing mechanisms for gearings conveying rotary motion }
[F16K 31/00](#), [F16K 33/00](#) Controls for valves
[F16P 3/00](#) Safety devices acting in conjunction with the control or operation of a machine
[F16P 7/02](#) Stopping machines on occurrence of dangerous conditions therein
[G02B 21/32](#) Micromanipulators structurally combined with microscopes
[G04B 1/00](#) to [G04B 18/00](#) Driving mechanisms in clocks or watches
[G06C](#) Digital computers in which all the computation is effected mechanically
[G06F 3/02](#) Manual computer input arrangements
[G06K 11/00](#) Converting a pattern of mechanical parameters into electric signals
[G21C 7/08](#) Displacement of solid control elements in nuclear reactors
[H01H](#) Mechanisms for operating switch contacts
[H03J 1/00](#) Mechanical control of resonant circuits.

Guide heading:**G05G 1/00****Controlling members, e.g. knobs or handles****Assemblies or arrangements thereof**

Indicating position of controlling members ({ means for preventing, limiting or returning the movements of parts of a control mechanism [G05G 5/00](#); providing feel, e.g. means to create a counterforce [G05G 5/03](#); specially adapted for programme control [G05G 21/00](#); vibration damping [G05G 25/02](#); } joysticks [G05G 9/04](#); steering wheels for motor vehicles [B62D](#))

NOTE

Within this main group the first place priority rule is applied, i.e. at each hierarchical level classification is made in the first appropriate place

G05G 1/01

- . Arrangements of two or more controlling members with respect to one another (double foot control, e.g. for instruction vehicles [G05G 1/34](#); mounting units comprising an assembly with two or more pedals [G05G 1/36](#))

G05G 1/015

- . Arrangements for indicating the position of a controlling member (means for continuously detecting pedal position [G05G 1/38](#); means for detecting position through tactile feedback [G05G 5/03](#))

G05G 1/02

- . Controlling members for hand actuation by linear movement, e.g. push buttons

G05G 1/025

- .. {actuated by sliding movement }

G05G 1/04

- . Controlling members for hand actuation by pivoting movement, e.g. levers

G05G 1/06

- .. Details of their grip parts { ([G05G 1/10](#) takes precedence) }

G05G 1/08

- . Controlling members for hand actuation by rotary movement, e.g. hand wheels

G05G 1/082

- .. {having safety devices, e.g. means for disengaging the control member from the actuated member }

G05G 1/085

- .. {Crank handles ([G05G 1/082](#) takes precedence) }

G05G 1/087

- .. {retractable; Flush control knobs }

G05G 1/10

- .. Details, e.g. of discs, knobs, wheels or handles { ([G05G 1/085](#) takes precedence) }

G05G 1/105

- ... {comprising arrangements for illumination }

G05G 1/12

- ... Means for securing the members on rotatable spindles or the like

G05G 1/30

- . Controlling members actuated by foot

G05G 1/305

- .. { Compound pedal co-operating with two or more controlled members }

G05G 1/32

- .. with means to prevent injury

G05G 1/323

- ... means disconnecting the connection between pedal and controlled member, e.g. by breaking or bending the connecting rod

G05G 1/327

- ... means disconnecting the pedal from its hinge or support, e.g. by breaking or bending the support

G05G 1/34

- .. Double foot controls, e.g. for instruction vehicles

G05G 1/36

- .. Mounting units comprising an assembly of two or more pedals, e.g. for facilitating mounting

- G05G 1/38 . . comprising means to continuously detect pedal position
- G05G 1/40 . . adjustable
- G05G 1/405 . . . infinitely adjustable
- G05G 1/42 . . non-pivoting, e.g. sliding
- G05G 1/44 . . pivoting
- G05G 1/445 . . . about a central fulcrum
- G05G 1/46 . . Means, e.g. links, for connecting the pedal to the controlled unit
- G05G 1/48 . . Non-slip pedal treads
Pedal extensions or attachments characterised by mechanical features only
- G05G 1/483 . . . Non-slip treads
Pedal extensions or attachments characterised by mechanical features only
- G05G 1/487 . . . Pedal extensions
- G05G 1/50 . . Manufacturing of pedals
Pedals characterised by the material used
- G05G 1/503 . . . { Controlling members for hand-actuation }
- G05G 1/506 . . . { Controlling members for foot-actuation }

- G05G 1/52 . Controlling members specially adapted for actuation by other parts of the human body than hand or foot

- G05G 1/54 . Controlling members specially adapted for actuation by auxiliary operating members or extensions
Operating members or extensions therefor ([pedal extensions](#))
- G05G 1/56 . . Controlling members specially adapted for actuation by keys, screwdrivers or like tools

- G05G 1/58 . Rests or guides for relevant parts of the operator's body
- G05G 1/60 . . Foot rests or foot guides
- G05G 1/62 . . Arm rests

- G05G 3/00** **Controlled members**
Assemblies or arrangements thereof ([interlocking of controlled members G05G 5/08](#))

- G05G 5/00** **Means for preventing, limiting or returning the movements of parts of a control mechanism, e.g. locking controlling member** ([G05G 17/00 takes precedence](#))

- G05G 5/005 . {for preventing unintentional use of a control mechanism ([G05G 5/28 takes precedence](#)) }

- G05G 5/02 . Means preventing undesired movements of a controlling member which can be moved in two or more separate steps or ways, e.g. restricting to a stepwise movement or to a particular sequence of movements ([G05G 5/28 takes precedence](#))

- G05G 5/03 . Means for enhancing the operator`s awareness of arrival of the controlling member at a command or datum position
Providing feel, e.g. means for creating a counterforce ([arrangements for indicating the position of the controlling member G05G 1/015](#))

- G05G 5/04 . Stops for limiting movement of members e.g. adjustable stop ([G05G 5/03](#), [G05G 5/05](#),

G05G 5/28 take precedence)

- G05G 5/05
 - . Means for returning or tending to return controlling members to an inoperative or neutral position, e.g. by providing return springs or resilient end-stops (G05G 5/28 takes precedence)
- G05G 5/06
 - . for holding members in one or a limited number of definite positions only ({G05G 5/005 }, G05G 5/03, G05G 5/05, G05G 5/28 take precedence)
- G05G 5/065
 - .. {using a spring-loaded ball }
- G05G 5/08
 - .. Interlocking of members, e.g. locking member in a particular position before or during the movement of another member
- G05G 5/12
 - . for holding members in an indefinite number of positions, e.g. by a toothed quadrant (G05G 5/28 takes precedence)
- G05G 5/14
 - .. by locking a member with respect to a fixed quadrant, rod, or the like
- G05G 5/16
 - ... by friction
- G05G 5/18
 - ... by positive interengagement, e.g. by a pawl
- G05G 5/20
 - .. by locking a quadrant, rod, or the like carried by the member
- G05G 5/22
 - ... by friction
- G05G 5/24
 - ... by positive interengagement, e.g. by a pawl
- G05G 5/26
 - .. by other means than a quadrant, rod, or the like
- G05G 5/28
 - . for preventing unauthorised access to the controlling member or its movement to a command position
- G05G 7/00**

Manually-actuated control mechanisms provided with one single controlling member co-operating with one single controlled member
Details thereof (controlling members G05G 1/00)
- G05G 7/02
 - . Characterised by special provisions for conveying or converting motion, or for acting at a distance
- G05G 7/04
 - .. altering the ratio of motion or force between controlling member and controlled member as a function of the position of the controlling member
- G05G 7/06
 - .. in which repeated movement of the controlling member produces increments of movement of the controlled member (G05G 7/08 takes precedence)
- G05G 7/08
 - .. in which repeated movement of the controlling member moves the controlling member through a cycle of distinct positions
- G05G 7/10
 - .. specially adapted for remote control (G05G 7/04 to G05G 7/08 take precedence)
- G05G 7/12
 - . specially adapted for actuating a member on a system in motion with respect to the controlling member, e.g. on a rotating shaft
- G05G 7/14
 - . characterised by means for delaying initiation of, or making more gradual throughout, the movement of the controlled member in response to a given input from the controlling member, e.g. by providing lost motion in the command train
- G05G 7/16
 - . Special provisions for reducing the effect of slight relative movement between supports of the mechanism e.g. resulting from resilient mounting of a controlled mechanism

G05G 9/00

Manually-actuated control mechanisms provided with one single controlling member co-operating with two or more controlled members, e.g. selectively, simultaneously

G05G 9/02

- the controlling member being movable in different independent ways, movement in each individual way actuating one controlled member only

G05G 9/04

- in which movement in two or more ways can occur simultaneously

G05G 9/047

- the controlling member being movable by hand about orthogonal axes, e.g. joysticks { (for switches [H01H 25/04](#)) }

G05G 9/04737

- {with six degrees of freedom }

G05G 9/04785

- {the controlling member being the operating part of a switch arrangement }

G05G 9/04788

- {comprising additional control elements }

G05G 9/04792

- {for rotary control around the axis of the controlling member }

G05G 9/04796

- {for rectilinear control along the axis of the controlling member }

G05G 9/053

- the controlling member comprising a ball { (graph-reading using a tracing ball or mouse [G06K 11/18](#)) }

G05G 9/06

- the controlled members being actuated successively by repeated movement of the controlling member

G05G 9/08

- the controlled members being actuated successively by progressive movement of the controlling member { (Single lever throttle and clutch control for marine engines [B63H 21/22B](#)) }

G05G 9/085

- {the controlling member acting on a set of cams or slot cams }

G05G 9/10

- with preselection and subsequent movement of each controlled member by movement of the controlling member in two different ways, e.g. guided by a shift gate

G05G 11/00

Manually-actuated control mechanisms provided with two or more controlling members co-operating with one single controlled member

G05G 13/00

Manually-actuated control mechanisms provided with two or more controlling members and also two or more controlled members ([interlocking G05G 5/08](#))

G05G 13/02

- with separate controlling members for preselection and shifting of controlled members

G05G 15/00

Mechanical devices for initiating a movement automatically due to a specific cause

G05G 15/002

- {due to an abnormal functioning of the controlled apparatus (if speed is abnormal [G05G 15/06](#)) }

G05G 15/005

- {due to a dangerous situation for the operator }

G05G 15/007

- {due to an exerted pressure }

G05G 15/02

- due to alteration of the sense of movement of a member

- G05G 15/04 . due to distance or angle travelled by a member
- G05G 15/06 . due to the speed of rotation or of bodily movement of a member, e.g. passing an upper or lower limit thereof ([speedometers G01P](#))
- G05G 15/08 . due to the load or torque on a member, e.g. if exceeding a predetermined value thereof
- G05G 17/00 Mechanical devices for moving a member after being released
Trip or release mechanisms characterised thereby**
- G05G 19/00 Servo-mechanisms with follow-up action, e.g. occurring in steps**
- G05G 21/00 Mechanical apparatus for control of a series of operations, i.e. programme control,
e.g. involving a set of cams ([G05G 5/02 takes precedence](#))**
- G05G 23/00 Means for ensuring the correct positioning of parts of control mechanisms, e.g. for
taking-up play**
- G05G 23/02 . self-adjusting
- G05G 25/00 Other details or appurtenances of control mechanisms, e.g. supporting
intermediate members elastically**
- G05G 25/02 . Inhibiting the generation or transmission of noise { ([suppression of noise or vibrations
in selector apparatus for gearings F16H 59/0208](#)) }
- G05G 25/04 . Sealing against entry of dust, weather or the like { ([in selector apparatus for gearings,
F16H 59/0213](#)) }
- Guide heading:**
- G05G 2009/00 Manually-actuated control mechanisms provided with one single controlling
member co-operating with two or more controlled members, e.g. selectively,
simultaneously**
- G05G 2009/02 . the controlling member being movable in different independent ways, movement in
each individual way actuating one controlled member only
- G05G 2009/04 . . in which movement in two or more ways can occur simultaneously
- G05G 2009/047 . . . the controlling member being movable by hand about orthogonal axes, e.g.
joysticks { ([for switches H01H 25/04](#)) }
- G05G 2009/04703 Mounting of controlling member
- G05G 2009/04707 with ball joint
- G05G 2009/04711 with substantially hemispherical bearing part forced into engagement,
e.g. by a spring
- G05G 2009/04714 with orthogonal axes

G05G 2009/04718	.....	with cardan or gimbal type joint
G05G 2009/04722	.....	elastic, e.g. flexible shaft
G05G 2009/04725	.....	with coil spring
G05G 2009/04729	.....	melastomeric
G05G 2009/04733	.....	with a joint having a nutating disc, e.g. forced by a spring
G05G 2009/0474	....	characterised by means converting mechanical movement into electric signals
G05G 2009/04744	.....	Switches
G05G 2009/04748	.....	Position sensor for rotary movement, e.g. potentiometer
G05G 2009/04751	.....	Position sensor for linear movement
G05G 2009/04755	.....	Magnetic sensor, e.g. hall generator, pick-up coil
G05G 2009/04759	.....	Light-sensitive detector, e.g. photoelectric
G05G 2009/04762	.....	Force transducer, e.g. strain gauge
G05G 2009/04766	....	providing feel, e.g. indexing means, means to create counterforce
G05G 2009/0477	.....	holding the member in a number of definite positions
G05G 2009/04774	....	with additional switches or sensors on the handle
G05G 2009/04777	....	with additional push or pull action on the handle
G05G 2009/04781	....	with additional rotation of the controlling member

NOTE

Provisional indexing codes related to scheme of trilateral project T021

Guide heading:

G05G 2505/00 **Means for preventing, limiting or returning the movements of parts of a control mechanism, e.g. locking controlling member**

Guide heading:

G05G 2700/00 **Control mechanisms or elements therefor applying a mechanical movement**

- | | |
|--------------|--|
| G05G 2700/02 | . Means for regulating or adjusting control mechanisms, e.g. devices for automatic adjustment |
| G05G 2700/04 | . Control mechanisms limiting amplitude or adjusting datum position |
| G05G 2700/06 | .. Control mechanisms for holding members in a number of positions comprising a device to limit the control range |
| G05G 2700/08 | .. Control mechanisms for locking members in one or more positions |
| G05G 2700/10 | .. Control mechanisms for locking or at least for blocking a member in one position out of a number of several positions |
| G05G 2700/12 | . Control mechanisms with one controlling member and one controlled member |
| G05G 2700/14 | .. with one elastic element as essential part, e.g. elastic components as a part of an |

- actuating mechanism
- G05G 2700/16 . . Mechanisms for conveying motion or signals for or in relation with control mechanisms
- G05G 2700/18 . . Systems wherein the control element may be placed in two or more positions
- G05G 2700/20 . Control mechanisms not otherwise provided for
- G05G 2700/22 . Mechanisms linking plurality of controlling or controlled members
- G05G 2700/24 . . Locking controlled members of selectively controlled mechanisms
- G05G 2700/26 . . with a control member moving selectively or simultaneously the controlled members
- G05G 2700/28 . . . with a control member that is moved for preselection in another direction than for final actuating
- G05G 2700/30 . . . without preselection or differentiation between selection and actuating, e.g. control members with a fix control sequence, after a determined advance cycle, in which the control device comprises cams actuating separately the controlled members
- G05G 2700/32 . . with plurality of control members, e.g. preselection and actuating members actuating several controlled members